

IDAHO DEPARTMENT OF FISH AND GAME

Jerry M. Conley, Director

HAYSPUR HATCHERY

Annual Report



1 October 1983 - 30 September 1984

by
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Fish Hatchery Superintendent II

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HAYSPUR HATCHERY

Annual Report

ABSTRACT

The Hayspur Hatchery is both a production hatchery and a broodstock station for rainbow trout. Hayspur Hatchery reared and transferred to other hatcheries 567,315 rainbow trout. In 1983, spawntaking produced 2,686,392 eyed eggs of unspecified stock (R1) rainbow trout with an eye-up of 89%. During 1984, Hayspur Hatchery stocked 973,181 fingerling and 193,415 catchable-size rainbow trout.

Fish feed utilized totaled 191,610 pounds at a cost of \$38,413.32, including 16,150 pounds at \$3,615.45 fed to rainbow trout broodstock. Feed conversion was 1.64.

Nitrogen supersaturation of the springwater continues to be a health problem. Packed column degassers placed in the vats and raceways have not been effective in reducing gas bubble disease.

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OBJECTIVES

1. To raise 110,000 pounds of catchable rainbow trout, approximately 9.4 inches in length, to distribute to the waters of Region 4 and Region 6 as well as to transfer to other Idaho state hatcheries for redistribution.
2. To take 3.5 to 5.5 million rainbow trout eggs for use at the Hayspur Fish Hatchery and redistribution to other stations.

INTRODUCTION

Hayspur Hatchery is located on Loving Creek, a tributary to Silver Creek of the Malad River drainage. Approximately 18 miles southeast of Hailey between Gannet and Picabo, the hatchery is a point of interest for visitors in the Sun Valley area. It receives its 21 cfs of operating water primarily from Loving Creek with approximately 5 cfs coming from springs and artesian wells.

The fish rearing facilities of the hatchery include six 12'x400' concrete raceways, an earthen pond 100'x500', eight 7'x100' raceways, twenty 2.5'x13.5' concrete vats, twenty 8-tray stacks of Heath incubators and six upwelling incubators. Broodstock are reared in an earthen pond which is approximately 150'x400'. This station is capable of rearing 145,000 pounds of fish.

FISH PRODUCTION

Hayspur Hatchery is both a production rainbow trout hatchery and a broodstock facility for an unspecified strain of rainbow trout (Hayspur stock would be most descriptive). We had 199,900 (2,000 lbs) Mt. Whitney stock rainbow fingerlings on October 1, 1983, which were transferred in November to the American Falls Hatchery. Hayspur rainbow trout on station October 1, 1983, amounted to 505,116 (20,000 lbs) fingerlings held for rearing to catchable size for stocking in the summer, 1984. In November, 131,100 (5,700 lbs) of these fish were transferred to the American Falls Hatchery.

From October 1, 1983, to September 30, 1984, the Hayspur Hatchery transferred 567,315 rainbow trout to other state hatcheries for rearing and redistribution (Table 1).

Spawntaking operations during 1983 gave us 2,686,392 eyed eggs with a loss of 11% prior to eye-up. Of the eggs taken, 250,560 were shipped to the American Falls Hatchery and 537,880 were shipped to the Hagerman Hatchery. Shortly after these eggs were shipped, we received notification from the International Aquaculture Research Center that three of twelve ovarian fluid samples taken in November were positive for infectious pancreatic necrosis (IPN) virus. All samples were negative for infectious hematopoietic necrosis (IHN) virus. As a result, the spawning operation ended early and no additional eggs have been shipped to other stations. We plan to take only the eggs

Table 1. Fish transfers from Hayspur Hatchery, October 1, 1983 to September 30, 1984.

Date	Species	Receiving station	Number	Pounds	Size (fish/lb)
11-4-83	Rainbow trout	American Falls Hatchery	131,100	5,700	23
11-4-83	Rainbow trout*	American Falls Hatchery	195,707	3,082	63.5
3-29-84	Rainbow trout	Hagerman Hatchery	162,478	650	250
6-26-84	Rainbow trout	Mullen Hatchery	12,600	2,800	4.5
6-26-84	Rainbow trout	Clark Fork Hatchery	11,880	2,700	4.4
7-16-84	Rainbow trout	Mullan Hatchery	27,090	6,300	4.3
8-2-84	Rainbow trout	Mullen Hatchery	15,120	3,600	4.2
8-2-84	Rainbow trout	Clark Fork Hatchery	11,340	2,700	4.2
TOTAL			567,315	27,532	

*Mt. Whitney stock

necessary for our own production in the fall of 1984. Further tests of the Hayspur broodstock in 1984 will determine the future of our egg production. Our past spawning records indicate that three to five million eggs can be produced each year at the Hayspur Hatchery (Table 2).

At the end of September, 1984, we had 14,764 (5,678 lbs) of R1 catchable rainbow trout averaging 2.6/lb remaining for fall stocking. In addition, rainbow trout being held for rearing to catchable size numbered 336,049 (28,933 lbs) and averaged 11.6/lb. There were no eggs taken prior to October 10, 1984.

FISH HEALTH

The major health problem continues to be gas bubble disease from nitrogen supersaturation of our spring water. The attempt at using packed column degassers was not sufficient to stop losses due to supersaturation. The low head gravity feed situation prevents the use of packed columns in our incubation water and dictates only very short (<24 inches) packed columns in the starter vats. As a result, our efforts at reducing supersaturation in the early stages of rearing are made difficult. Fingerling raceways were fitted with five foot packed columns. The columns apparently need some fine tuning since gas bubble disease was still present in fish while reared in the fingerling raceways. There was no monitoring of N₂ levels in the spring water during the rearing cycle. The problem is eliminated when the fish are transferred to surface water rearing in the large raceways as space becomes available.

An occasional outbreak of bacterial gill disease was treated with copper sulfate solution or benzalkonium chloride, and losses were kept to a minimum.

A bacterial hemorrhagic septicemia in our fingerlings resulted in a loss of some 40,000 before treatment with TM-50 medicated feed reduced the mortality.

FISH TRANSFERS AND RELEASES

Five hundred and sixty seven thousand, three hundred and fifteen (567,315) fingerling and catchable rainbow trout were transferred to other state hatcheries for rearing and distribution (Table 1).

The planting season started in early April and ran beyond September 30, 1984. We extended some of our late season reservoir releases as late as possible to allow warm temperature in the reservoirs to drop. The Trail Creek, Warm Springs Creek and Big Wood River sites were planted on through September due to the heavy usage by Sun Valley area sportsmen late in the season. In addition to our normal planting area, we took on some additional areas on the Salmon River normally planted by the Mackay Hatchery. The Hayspur Hatchery planted 973,181 (12,515 lbs) fingerlings R1 rainbow trout and 193,415 (53,368 lbs) catchable size R1 rainbow trout from April to September, 1984.

Table 2. Hayspur Hatchery rainbow broodstock spawning records.

Year	Eggs taken	Eggs eyed	% eye-up	Average size (eggs/oz)	Number transferred to other stations
1975	3,168,244	2,824,810	89	216	1,334,608
1976	2,956,345	2,501,074	85	238	1,304,776
1977	4,399,560	4,045,760	92	264	2,416,656
1978	5,210,890	4,756,613	91	251	2,592,616
1979	5,224,100	4,736,438	91	238	2,916,928
1980	3,760,252	3,456,136	92	238	1,413,480
1981	3,380,642	3,139,520	93	238	999,280
1982	4,880,500	4,540,357	93	238	1,696,600
1983	3,008,048	2,698,984	90	238	788,440

SPAWNTAKING OPERATIONS

During 1983, we took eggs from Hayspur broodstock from October 12 to December 5, 1983. Spawning adults are attracted to raceway 7 at the head of the broodstock pond by the installation of a finger weir and diversion of water through raceway 7. Early in October, usually the second Monday, spawntaking commences. Adults are sorted and spawned every Monday on through December until the desired number of eggs are collected. This year we stopped on December 5, when the presence of IPN was reported. In 1983, eggs were taken from 795 females running into raceway 7. Three million, eight thousand and forty-eight (3,008,048) eggs averaging 231 eggs/oz., using the Von Bayer method of measurement, were taken. There was an 89% eye-up in the 1983 eggs.

FISH FEED UTILIZED

Our fish were fed 191,610 pounds of fish feed at a cost of \$38,413.32. This includes 16,150 pounds, costing \$3,615.45, fed to rear rainbow trout broodstock. Feed conversion during the year as lbs fed/lbs gained was 1.64.

HATCHERY IMPROVEMENTS

New perforated aluminum plate screens were built for the large raceways. They appear to clean easily and should last indefinitely.

A second feed bin was installed by the Idaho Department of Fish and Game engineering crew. It is located near the small raceways and allows the use of two sizes of bulk feed in the feeding program.

MISCELLANEOUS ACTIVITIES

The visitor load was as heavy as ever with particular attention paid to our broodstock. An estimate of 5,000 visitors annually is probably low. Our contact with the public promotes a positive attitude toward the Department. Opportunities to build supporters for Department programs among the school children and Cub Scouts, who make frequent tours, is a particular benefit of raising large trout which are such an attraction.

Cooperative work with Region 4 took the form of checkstation work and enforcement work as the opportunities arose.

HATCHERY NEEDS

1. Piping and valves to feed spring water into large raceways.
2. New domestic water line to replace the deteriorated system in place.

3. A satisfactory system for removing nitrogen supersaturation.
4. A contaminant-free holding area to rear broodstock.

Numerous areas need attention for repair or reconstruction but this can be expected. We deal with our maintenance and modifications as time and funding allows.

ACKNOWLEDGEMENTS

Hatchery staffing during the fish year included:

Leland Batchelder, Fish Hatchery Superintendent II; John R. Thorpe, Fish Hatchery Superintendent II; John T. Siple, Fish Hatchery Superintendent I; Doug Burton, Fish Culturist; Gary F. Bertellotti, Fish Culturist; Willis Castle, Peter Johnson and Jack Knight, SYEP.